

## ABSTRACT OF THE DISCLOSURE

A multi-frequency plasma reactor includes first, second and third power generators for generating power signals which are operably coupled to at least one of an upper and lower electrode. The plasma reactor further includes a controller for selectively activating the power generators according to an activation profile that results in the formation of a desirable narrow gap via in the semiconductor wafer. A method of generating a plasma in the reactor for etching the semiconductor wafer is also described by way of configuring the power generators according to various activation configurations during various phases of the etching process.

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